

SEQUENCE LISTING



(1) GENERAL INFORMATION:

(i) APPLICANT: DE LEON, F. Abel Ponce  
CIUFO, Stacy  
ROBL, James M.  
AMBADY, Sakthikumar  
SMYTH, JR., J. Robert

(ii) TITLE OF INVENTION: Z-CHROMOSOMAL MARKERS DERIVED FROM  
CHICKEN (GALLUS DOMESTICUS) AND USE THEREOF IN CHROMOSOMAL  
MAPPING

(iii) NUMBER OF SEQUENCES: 19

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: BURNS, DOANE, SWECKER & MATHIS, L.L.P.  
(B) STREET: P.O. Box 1404  
(C) CITY: Alexandria  
(D) STATE: Virginia  
(E) COUNTRY: United States  
(F) ZIP: 22313-1404

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: US 60/034,410  
(B) FILING DATE: 02-JAN-1997  
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Teskin, Robin L.  
(B) REGISTRATION NUMBER: 35,030  
(C) REFERENCE/DOCKET NUMBER: 002076-001

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: (703) 836-6620  
(B) TELEFAX: (703) 836-2021

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 215 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GATCACTTTC CCTAATATTC TTGTGTTTCT TGTTTGTTGA CCTGTAATGC AGTTCTGAGT 60  
TTTGAAAGG AACTAATTAA GACCAGAGGA GAGATAATTT TCTTTTATCA AAAAACAAC 120  
AAACAAACAA AAAACGAAT TCTTACCACT TTACAAAAAT TTTCCATTTT GAAGGCCAGT 180  
ACAGCCATAG CATTATCTA CTTTTTGCTT TGGAT 215

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 482 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

GATCAGGTGG CCTGTAGTAG ACAACAACAA CAATGGGGTG CCCTTTGTTG CTTAGTCTC 60  
TAACTCGCAC CCACACACAC TTTCAAGTTG CTTGTGGCCA TTCTTCAGGG ACAGTTCTTC 120  
ACAATCTATT CCTTTCCTGA TGTAGAAGGC GTCACCTCCT CCCCTCCTGC CTCGTTTGTC 180  
CCTTCTAAAC TGCAGGTATT AGTATTGATA GCTAAGGTCA AGTCATGGGA ACCATCTCAC 240  
CAGGTTTCAG TGTTGGCAAC TATGTTATGC TTTCTTAGGA GCATGGTGGT TCCAACCTTT 300  
CCCTGCTTAT TTCCCAAGCT GTGTGTGATG GTAGGATAGC ATTCAAGTGG GAGGAGCCTA 360  
TCGGCTTTTT GGAGGTACTC CTAAATCCCT GATATTCCCC TGATTCCCGT ACTTCTTCCT 420  
TGCCAAGGGC CCGCCAATGC ATAGTTCAAT TTCTCATGCA GACGCTAAGG AAAGGTGGAC 480  
CC 482

(2) INFORMATION FOR SEQ ID NO:3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 285 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

GATCGTATGT ATTTTTTTTAC ATAGGATAGA AAATGGCCAA TAGGAAATAA GACAGTACAG 60  
CTACTAAGAA AGAAACACAA TTACACACAC ACACACACAC ACACACACAC ACACATTTGA 120  
AAAACGCGCT GCACAGCAGT GTGGGTATTT TTTCACAAGA GAGACACACT CTACAGTACA 180  
CAGCCAGCTC TACTTTGTCTG CACAGTCTCA GTGTGTGTTT GCCAACAGGA CGCGGTTTAC 240  
AGGGAGATAT TGTCTCTTG TGTGTGTGGA GACACAGAGA CAGAG 285

(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 355 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

GATCCCCTGG AGGAAGGGCA ATGGCAACCC ACTCCAGTAT TCTTGCCTGA AGAATACCAT 60  
GGTCAGTTTT GCCTCCTGGG CTATAGTCCA TGGGGTTGCA AAGAGTCAGG CATGACTGAG 120  
CGACTCTCTC TCTCTCTCTC TCTCTCTCTC ACACACACAC ACACACACAC ACACACGGCG 180  
TCTCTCTCTC TCTCTATACA TATAGGCTGT GTGTCTCGCT ATTCTCACAT GAGGGAAACT 240  
CATATCTAGC ACGTGGCACA AATATTGTTT GTGGCTCTCA CAAAAGACAT GTGGGCGCAC 300  
AAAGGTCCCC CCCCGGTGGA TACANCGCCT TGGTTTTTTTA TAACCCAAGC CTGTG 355

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 196 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

GATCACATAT GTAAACTAGG GAATTGCATA ATAAGATTAA ATGTAGGTGT AGAACGTGGC 60  
ATGAAGGAAG GTAGAATTAG GTGGTACCTA TCTCTTCTGA AACAACTGA GAATCCTACT 120  
ACCAATCAAC ATATTCTACA TACCACACAC ACATTTTTTC TCGAGTAAAA TATAAACTAA 180  
TGAGAAACTT CCCTAG 196

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 474 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

GATCCCAAGC AACACATAGN CAGACAATCA CACACACACA CACACACACA CACACACACA 60  
CACACACACA CACATCCTCT CCCCACAATA CATCCCGAGA GGGGGGAGAG ACACTCTCTC 120  
TCCCTCTCTA TAGGGGAGAC CCGGAGAGCT GGCTCTGTTG TCTCTCTACA CCGGACATAC 180  
AGTGGAGCAC ATCTCACACT TGTGTCTTTG TCTCTCTACA CCGGACATAC AGTGGAGCAC 240  
ATCTCACACT TGTGTCTCTA TCTCTCCCTG TCCCTGTTGA TCCATCTCTC TTCACACATC 300  
TCTCCAGATC TTAGCGCTAG AGTCTCCTGT CTTCTCTCTG CGCAATTTGT GTGATAGAGA 360  
CACCTGATAT GTTGTGTGGG GGAGACATCT GTGTGTCTCT GTGTCATCCC AGAGGATTTT 420  
TCTCTCCAC ACTTAGAGGC CTTCTCAAGA GATGGGAGGT TTTAATGGGG TGTG 474

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

GATCATTCTT CTGTTTCCCA TTCTAATGGG AATTCTCCAC ACACACACAC ACACACACAC 60  
 ACACACACAT CTTCTTCCCC TTACATGGAA AAAAATCCTC CACACCCCTG GACTTGATT 120  
 ACTCTCCCTC TTCCCAGAGA GAGATC 146

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 422 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

GATCCCCTAG AGAAGGGAAT GGCTACTCAC TCCAGTATTC TTGCCTGGAG AATTCCTGG 60  
 TCAGAGGAGC CTGGAAGGCT ATAATCCATA GAGTCGCAAG AGTCAGACAG GACTGAGTGA 120  
 CTAACACACA CATGCACACA CACACACACA CACACACACA CTTGCTCTAG GGAGAGGCAT 180  
 AGAGATGTAA TCTCTCTTAA AATGGGGGTG GCGATGGCCC CTGCGGCCAA GTAATCGCCA 240  
 CACATGCGTA TTCCCCTTAA GATTGGGTTA GGCCTCCCTT ATGAGGAGAG ACCAGGGAGA 300  
 GAATGGGCTC TCTCTCTCTC TCACTCCCCA ACCGAGTAAG TGGTAAAAAA GGTTTTCTTG 360  
 GATTACAATT TTGGTGTTAC AGAATTGGAA AAAAATATTT TTGGGGCTCC CCCCTCAGTT 420  
 TA 422

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 280 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

CTAGCAAAAA CACCCCCACA AGTTATGAAA ACAACGGCTT AATATAGTAA TGTGTGTGTG 60  
 TGTGTGTGTG TGTGTCACAC CACAGTTTTT TCTGATACTC AAACCTCTCT CTTTCTCTAC 120

AGGGGCCCCC CATAACACAG CGGCTGAGAT GTGTGACGGG AAGGCGTGGC CTTTTACACA 180  
 TTTGTGGTAT GGTCTGCCAA GGCCCCCTAT TGCCCCCAC AACTACGGAG ATACACTAGG 240  
 GGCGACCCGC AGGCGCGCGA CCCCCAGGTG GGGCCCCGAG 280

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 478 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

CTTTAGGAGG TTCTCTCGAG TAAGCTTTTT GGATTCTTT GTTCCCAAG CATCACATGG 60  
 TACAGGCAGT CACACACACA CACATACACA CACACACACA CACACACACA CACTCCTCTC 120  
 CCCACAATAC ATACCGAGAG GGGGGAGAGA CACTCTCTCT CCCTCTCTAT AGGGGGAGCC 180  
 CCACAGAGCT GGCTCTGTTG TCTCTCTCCA CCGGACATAC AGTGGAGCAC ATCTCACACT 240  
 TCTGTCTCTA TCTCTCCCTG CCCCTGTGAC ATCCATCTCT CTTCACACAA TCTCACCAG 300  
 GATCTTAGCG CTAGAGACCC CCTGTCCTTC TTCTCCTGGG GAAATTTTTT GTGGATAAGA 360  
 GACACCCGAT ATATTGGTGT GGGGGAGAAC ATCTTGTGAG GTCTCTGTTG TGCCATCCCA 420  
 ACAGGAATTT TTATCTCCCC CACAATTAGA GGCCCCTCCT CAAGAGTGTG TGAGGGTT 478

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 198 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

GATCAGAGAT GTATGTATTT TTTTACATAG GATAGAAAAT GGACAATAGG AAATAAGACA 60  
 GTACAGCTAC TAAGAAAGAA CCCACATTTA CACACACACA CACACACACA CACACACACA 120

AGTGTTTAAT CCGCTGCACA GCATTGTGGA CATTTTTACA CAAGAGAGAC AACTCTACA 180

GTTTGCGCCC AGCTCTAG 198

(2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 194 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

*Al cont*  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

GATCATTCTT CTGTTTCCCA TTCTAATGGA ATTCTCCACA CACACACACA CACACACACA 60

CACACACTCT TCTTCTCCT GACATGGAAA AATCTCCCCC ACACCCCGGG AACTGATTT 120

CTCTCCCTCT CCCCAACACT GTGAGCAAGA GGAGTTTATT TTGTGTGTGT CACTCTTCCA 180

GGGAGAGAGA GATC 194

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 200 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

CTAGGCATCG GTTGGGAGGT GGTGAGTAAT TACTTGTCTG ACATTAGTCC TGTAACATTG 60

GGTGTGTGTG TGTGTGTGTG TGTGTATTCC CCTTGGAAT TGGTTTTCTC AACCACAAGT 120

TCTTCTTTTT TTTTTTCTC CCCCTTTTC TTCTGAAAT AAGTACTTGG GGGGTTTCCG 180

CCCCCCCCCGG TAAATAAAAT 200

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 395 base pairs
- (B) TYPE: nucleic acid

(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

CTAGTGGCTC CCAAGCAACA CATAGCCAGA CAACACACAC ACACACACAC ACACACACAC 60  
ACACACACAC ACACACACTC CTCTCCCCAC AATACATCCC GAGAGGGGGG AGAGACACTC 120  
TCTCTCCCTC TCTATAGCGG GAGCCCCACA GAGCTGGCTC TGCTGTCTCT CTACACCGGA 180  
CATACAGTGG AGCACATCTC ACATTCGTGT CTCTATCTCT CCCTGCCCCT GGTGACATAC 240  
ATCTCTCTTC ACACATCTCA CCAGGTCTGA GCGCTAGAGT CTCCTGTCTT CTCTCTGCGC 300  
AATATTTGTG ATAGAGACAT CTGATATATT GTGTGTGGGA GACATCTTGT GAGTCTCTGT 360  
GTGCATCCCA GAGGATTTTT ATCTCCCCAC ACTAG 395

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 447 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

GATCCATGAA AACTTTCCGA GTTGTATTGT CTAGGTGAAA ACACACACAA ACACACACAC 60  
ACACACACAC ACACAACAGG GAGATGAGTC TTGCAAGAGA ATAGGGGAGA GTTATGTCAC 120  
CAAGTCTGGT GAGGTATATA GCGTATAGGG AGCCAACATG TCAGACATCT GATGTGCTAA 180  
GATTAACATT TTATTTTATT TAATGTGTGA GATCTCATAT AGCGGCTCTT CTTATATATG 240  
ACGTCTCGCA ATGTCTCTTT ATGTGTGTGA TTCTCTGAGC CCCTGGGAGA TATCTGTCAT 300  
CAGAGAGAAG AGACATACAC ATACAGGGGT TATATATTTT CTCCCTGTGT GTGGAGATGG 360  
AGGGTATTTT GGACAAGCTC AACACTCATT GGCTCCCAGA GAGAGAAAAG GAGCAACTGT 420  
TGCACCCGGG GCTCTGTAGC TGGGATC 447



(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 300 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

CAATTGGGTA CATCTACCTG GTACCCACC CGGGTGGAAA ATCGCATGGG CCCGCGGCGG 60  
TTCTAGGAAG TACTCTCGAG AAGCTTTTGG GTTCTTTGGG TCCCAAGCAG CACATGGACA 120  
GGCAATCACA CACACACACA CACACACACA CACACACACA CACACACACA CTCCTCTCCC 180  
CACAATACAT CCCGAGAGGG GGGAGAGTCA CTCTCTCTCC CTCTCTATAG GGGGCGCCCC 240  
TAAGAGCTGG CTCTGTTGTC TATCTACACC GCACATACAA TGGAGCACAA CTCACACTAG 300

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 358 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

GATCAAAGCA TGGAGGTCAT GCCAGGCACT GAACAAAATG GTAGAGAGTG ATTCTATGAC 60  
TGACTAAGAC CTCATGCAAC AACAAGTGAA GAGTCACAAC TGCAAACAGA AGTACAACCT 120  
AGCAAATCCT ATTTTCAGGA AACACTAAAC CGTAATACTT GCACGATTTT TTCTTTAATA 180  
CAGTAATAAT TCTTTTAGAA TTTGGATATA TCTTTTAAGA TACATATTTG TCTAAATACC 240  
AAGGCAGGAT ATGAGCATAA AATAGCTAAG GTTAGCTATG GTGTTATATT TAAGAAGACC 300  
ACAGAGCAAT AGGAGCATAC TTTTCTTGGG GTAGAAGGGG CCCTTAAAGG TCACCTAG 358

(2) INFORMATION FOR SEQ ID NO:18:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 289 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

*Al conf*

|  |     |
|--|-----|
| CTAGCCACAT CCTATAACTC CACTCCACCT TTAATCCTGA TTTCTGTGTC TCTTCTCTAA  | 60  |
| CCTCTATGGC CTTTCTCTAA AGTTCCCCAA TATCAACAAT CCTTTTCCCC ACTGGGACCT  | 120 |
| CCAGTTTATT GATTCTACCA TGTCACATATC CATGGTCAAC CACTTGTGGT ATTATAGGAT | 180 |
| GTCGCGTGTG TGTGTGTGTG TGTGTGCATG TGTGTGTGCT TGGGTGTCAG AGAGTTCCAA  | 240 |
| TCTGGGGGAC CTATGGTTTG TAAACAACAG GTCTCTTGCC AAGGAAGAT              | 289 |

(2) INFORMATION FOR SEQ ID NO:19:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 216 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

|   |     |
|---|-----|
| CTAGCGCTCG TGCCCCTGCA GTTCGACACT CAGTGGCTCC TCCACACACA CACACACACA | 60  |
| CACATCAATA TATATATAGA TAGATAGATA GATAGAGGAG CAATATAAGT GGCTTCTCTA | 120 |
| TTTCCAGCAT GTTTTGAAGA GCATAAACTC AACAGAGTAT ATATAAATCT GATGTGACCC | 180 |
| ATGTCATCTG CTACAGCATG AGAGGGGGTA GTGATC                           | 216 |